Nutrition News

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GOOD NUTRITION FOR THE ARMY

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Morale determines the fighting value of the soldier; and to as large degree the food he eats determines his morale and fighting ability. Whether an Army is fighting or not, it must eat. It must be fed on a diet which keeps it fit for any task.

As the war advances, more efficient weapons and tactics are developed; similarly, types of food and methods of supplying them must change to meet new conditions and demands for greater efficiency. This is a war of movement, tanks, and planes.

To meet this changing situation, the United States Army Field Rations were developed so that the soldier can carry his food with him into battle. Three different types of rations to be used under different circumstances during combat service are identified as rations K, C, and D.

The Subsistence Research Laboratory, having good nutrition in mind at all times, sees to it that a plentiful supply of milk is included in each ration. The biscuits of the K ration contain eight per cent of dried skim milk. Three types of process cheese are packed with this ration: American, American with bacon, and Swiss blended with American. Both the biscuits and the caramels of the C ration contain a good percentage of milk. The emergency D ration is made up of chocolate, skim milk, and oat flour.

The inclusion of milk and dairy products in the Army dietary is an essential phase of our program. The nutritive value of milk and its by-products is so well established that their inclusion in the ration is taken for granted.

According to our present ration basis, in one year, one million men in a camp in this country will consume:

Fresh milk	182,500,000 pounds
Evaporated milk	22,800,000 pounds
Butter	25,500,000 pounds
Cheese	5,700,000 pounds
Ice Cream	2,000,000 gallons

The Sunday G. I. dinner is synonymous with ice cream. Where possible ice cream is served at least one other day during the week.

Refrigeration in this country is available in all Army camps. Therefore, the handling of dairy products other than fluid milk presents no great problem. Butter appears as butter, natural cheese and process cheese are in their usual form, and at times, even cottage cheese is available.

Overseas Distribution

Generally speaking, most dairy products may be handled in standard commercial containers and through normal commercial channels. When we consider Army food for overseas distribution, the program is entirely different. Not only the products, but the packaging and packing as well, must be changed. Dairy products lose their familiar identity.

Butter is probably the most common food product found on the American table. Our attempts to stabilize butter for overseas use have produced Carter's Spread and Army Spread. These products keep well, will not melt at high temperatures, and resemble butter in appearance. However, these spreads are not as acceptable as good quality butter, but are being continually studied and improved.

The cheese used for overseas troops is process cheese and canned. Although only small amounts of dehydrated cheese have been used by the Army, this product is one of the most stable of all dehydrated dairy products. It will reconstitute well, may be eaten without reconstitution, and may be used in cooking for flavoring. A considerable amount of study is being given to the development of foods supplemented with dehydrated cheese.

Colonel Isker

These are but a few of the projects which confront the Quartermaster Corps Subsistence Research Laboratory in connection with the application of dairy foods in the Army ration. The American soldier will be nutritionally well fed, he will be fed the kind of food he likes to eat, and the kind with which he is familiar. It is our duty to supply this food to him in the best possible form, and until the war is over, the United States Army Subsistence Research Laboratory will be working toward this goal.

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AT NUTRITION RESEARCH

Milk and other dairy products are important sources of nutritionally essential vitamins. Dr. E. Neige Todhunter, head, nutrition department, University of Alabama, reported the following results of recent research as part of her address at the National Dairy Council Summer Conference in June, 1943.

Riboflavin . . Recent figures show milk to have 1.9 mg. of riboflavin per quart — which more than meets the needs of the growing child up to 12 years and the needs of the adolescent girl. Riboflavin is markedly higher in cow's milk than in human milk. This vitamin is well established as a dietary essential, although the difficulty has been to find some clear-cut symptom or measure of its deficiency. It appears to be closely related to growth and to general well-being.

Thiamine . . Milk makes an appreciable contribution of thiamine when considered on the basis of the amount of milk used in the diet. A recently reported value of 0.384 mg. per quart of milk means that this amount furnishes one half to one fourth of the daily requirement for the growing child and for the adolescent girl. The desirable intake for humans is from 0.5 mg. to 1.0 mg. of thiamine per 1000 calories of diet. Anorexia, fatigue, listlessness, mental and physical inefficiency have been demonstrated as rather clear-cut results of lack of thiamine.

Niacin . . From one quart of milk, 0.96 mg. of niacin is obtained — one sixth to one twelfth of the requirement of a growing child. Niacin appears to be the major vitamin in pellagra prevention.

Pyridoxine . . The pyridoxine value of milk is 0.20 mg. per 100 grams. One quart of milk more than meets the reported daily requirement of 1.5 mg. for an adult. Its role in human nutrition requires more research.

Pantothenic Acid . . The pantothenic acid value of one quart of milk is 2.88 mg. On this basis, one quart of milk supplies about 29 per cent of the requirement of an adult. Its function in human nutrition is not well defined.

Biotin . . The biotin value of milk is 0.048 mg. per quart, which is approximately one third of the day's requirement. On the dry weight basis, milk, eggs, most fresh vegetables, and several fruits are good sources of biotin. A lack of biotin in human nutrition results in dermatitis, grayish pallor of skin, and tongue changes.

Inositol . . Inositol is present in milk in amounts of 18 mg. per 100 grams. Little information is available at present regarding human requirement. However, it has been suggested that one gram probably more than covers the requirement. In comparison with other food sources, milk and eggs contain moderate amounts of inositol.

Vitamin A . . Vitamin A content of milk is about 3,000 I. U. per quart; more than adequate for a child up to 6 years of age, and more than half the day's requirement of an adult.

Vitamin C . . Vitamin C is present to the extent of 1.6 mg. per 100 grams of pasteurized milk or about 15 mg. per quart.

Unidentified Factors . . Milk is also a source of one or more as yet unidentified nutritive factors.

In Conclusion . . Because of the important nutritive value of milk, it is urgent that every effort be made to ensure an adequate supply of milk, in some form, for children in this country even though there are increased demands on its production for feeding the populations of other countries.

TIMELY TOPICS

Colonel Isker

Colonel Rohland A. Isker, author of the leading article in this issue, is director of the Quartermaster Corps Subsistence Research Laboratory. Colonel Isker conducts the extensive research program of the Army designed to ensure nutritious food for American soldiers under all conditions. His work is carried on in completely equipped and technically staffed bacteriological, vitamin assay, and analytical laboratories.

Nutrition Education

The United Nations Conference on Food and Agriculture took an important step toward the advancement of nutrition education. Among other recommendations emphasizing the increasing value of education in nutrition was the following statement: "Simple facts about food and diet should be taught in all schools. In the case of older children, more extensive instruction may be given, supplemented by courses in home economics and domestic science for girls. Children teach their parents and the education of children helps to spread knowledge of the subject throughout the country."

Food For Freedom

The new "Food Fights for Freedom" program under the sponsorship of the Office of War Information places major emphasis on four "guides" to action— "produce, conserve, share, and play square". This broad food campaign is designed as a backdrop for other government food programs — nutrition, conservation, production, etc.

NUTRITIONISTS FEED WAR WORKERS "AROUND THE CLOCK"

By Miss Frances Berkeley Floore, Nutrition Advisor, Eastman Kodak Company, Rochester, New York.

There are unlimited possibilities for bettering the nutrition of the industrial worker—and we must take advantage of them now, when feeding is done "around the clock" and when ultimate victory rests so largely upon the shoulders of industry. Today we know that the man or woman at the machine deserves careful consideration of his food needs.

The basic premise of the Eastman Kodak Company has been the assumption that human advances of any sort are immensely significant. A little over a year ago, our nutrition program at Kodak was enlarged to co-operate with the cafeterias, thereby offering a very tangible, timely, and practical opportunity for further improving industrial relations and at the same time aiding nutrition's cause and abetting a speed-up of production.

Cafeteria Program

Eastman plants in the United States and Canada have their own cafeteria set-ups. Last spring a dietitian and three assistants took over the cafeteria responsibilities in one plant. A new cafeteria that would feed 6,000 a day, if necessary, and seat 1,240 at a time was arranged.

This one plant is now serving 3,500 a day. A year and a half ago they were serving only 800. Special attention has been given to serving interesting food and this, together with the increase in employees and the new cafeteria set-up, is responsible for the large increase in the number fed. The consumption of milk is more than one-half pint per person per day at the present time. Soft drinks have been taken off the counters with no complaints. There are five counter lines, four for complete meals and one for snacks.

A 30¢ and 35¢ "special" is served including a meat, two vegetables, beverage, bread, butter, dessert or fruit. A tray—set up with the "special"—is placed at the entrance to the cafeteria at mealtime so that the customers may look it over and decide if they wish to choose from the "special", the a la carte, or the "snack" line.

Work is done in sales promotion to increase the number taking the "special". Frequently "extras" are offered; pie with ice cream, and sometimes a turkey dinner. There may be a small loss on each meal served, but it acquaints the new workers with the "special" and its advantages and gets them in the habit of making this choice.

Between-meal Feedings

Between-meal feedings are another problem. Plants that furnish nourishing beverages have commented practically without exception on the value of between-meal feedings. Some employees have not been able to take time out except at meal hours, as they cannot leave their machines — every minute away from work hampers those at the front. But they welcome a glass of milk if it is brought to them without unduly interrupting their work. Our records reveal very favorable results when milk or chocolate "chill" (chocolate milk drink) and assorted crackers are taken between meals.

Our employee paper "Kodakery" has proven a good method for dispensing nutrition information. A column called "Data on Diet", answers questions on rationing, points, menus, and other miscellaneous food problems. Besides this, we feature articles on lunch box suggestions, meat extenders, and other timely topics.

Nutrition pamphlets are kept on a rack in all the Medical Departments and may be taken by employees who want them. Occasionally, these are distributed through the cafeterias as well. Nutrition movies are sometimes shown during lunch hours in the recreation room.

There is a big job ahead of us—for the man at the machine and the bench has moved up front and has taken his food and health problems with him, and we must help to solve his difficulties as our contribution to the war effort.

EFFECTIVE CITY-WIDE SCHOOL LUNCH PROGRAM

By Miss Bernice H. Michael, Nutritionist, St. Joseph (Missouri) Public Schools, and Mrs. Annabel B. Fisher, Nutritionist, St. Joseph (Missouri) Nutrition Service

Miss Michael

A Victory Dinner highlighted an extensive school lunch project conducted in St. Joseph, Missouri, this last year. This dinner, given when the program committees were organized and well started on their work, was designed to promote good fellowship among those interested in the project, and to show those who knew nothing of the plans what was being done.

The guest list included members of representative groups, as the Parent-Teacher Association, St. Joseph Nutrition Service, Board of Education, School Administration, and City Officials. The Master of Ceremonies was a high school boy—one the students would call a "regular fellow". He cleverly introduced each of the speakers and kept everyone entertained during the dinner hour.

Almost every school in the city had some part in making the dinner the success it was. The invitations, favors (colored paper vegetables and fruits with pipe stem legs and arms), and songs were contributed by the elementary schools. Invitations were attractively designed with a hand-colored picture of important foods, including milk, cheese, fruits, and vegetables. The table centerpieces and the skit which was given following the dinner were done by the high schools.

Each of the high schools in the city submitted a skit. The one chosen "A Vegetable Garden" was produced by the Negro high school.

Following the dinner, the short program consisted of five-minute talks by the Superintendent of Schools, a member of the Board of Education, and the chairman of the St. Joseph Nutrition Service Board. Miss Margaret Spader, Director of the Dairy Council of Kansas City, spoke briefly about the importance of nutrition as we know it today. Her talk was effectively illus-

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DID YOU KNOW ?

—that one quart of whole milk is approximately equal in food value to five ounces of American cheese?

—that sprouting raw soybeans with moist heat increases their nutritive value?

—that last year the average person consumed 177 quarts of milk—as milk and cream? This year there will be 190 quarts per person available in that form—but less of other dairy products than before.

—that sorghum and molasses are actually more nutritious forms of sweeteners than sugar, being rich in iron and calcium?

—that all the supply of ice cream on the Northampton was used for the wounded boys from the Hornet when the latter was sunk?

—that potatoes, which contain vitamin C, prevented sailors from dying of scurvy in the days of long voyages on sailing ships?

—that effective pasteurization of all milk could practically eliminate undulant fever in our rural areas?

—that pink-fleshed trout contain more vitamin A than white-fleshed trout, according to preliminary experiments? Presumably, this is the case with other kinds of fish.

THINGS YOU'LL LIKE TO READ

NUTRITION AND PHYSICAL FITNESS — L. Jean Bogert. W. B. Saunders Company, 1943. $3.00.

This practical presentation of nutrition has been brought up to date with special attention to the discussion of minerals and vitamins.

OUR FOOD—Laura Baxter, Margaret M. Justin, Lucile O. Rust. J. B. Lippincott Company, 1943. $1.20.

Introductory home economics students will find fundamental information concerning food requirements, planning balanced meals, wise buying, and the preparation and serving of the family food in this book. Of particular interest is the section on selection and preparation of school lunches.

UNITED NATIONS CONFERENCE ON FOOD AND AGRICULTURE — Final Act and Section Reports. United States Government Printing Office. 20 cents.

This booklet will serve as valuable reference material for all leaders engaged in nutrition education.

FAMILY NUTRITION — Philadelphia Child Health Society, 311 South Juniper St., 1943. 50 cents. (1942 edition revised)

This bulletin gives dietary values of common foods, practical menu and budget suggestions, results of tests on nutritional status of human beings, and a review of the nutritional needs of people.

EFFECTIVE CITY-WIDE SCHOOL LUNCH PROGRAM

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trated with two white mice, "Perky" and "Puny".

As a follow-up and to keep the interest from lagging, a city-wide Victory Lunch Council was formed a few months later. This Council is made up of the committee chairman and the sponsor from each school, and meets once each month to discuss the accomplishments and problems that have arisen since the last meeting. Any outstanding performance that has brought good results is reported at this time.

As a final reward, the St. Joseph Nutrition Service offers a Victory Lunch Flag of Award to schools having at least 90 per cent co-operation in the study of nutrition and in the selection of nutritious lunches.

School Lunch Program

This Nutrition Program was initiated by students after preliminary surveys and studies of each school's problems were made. This placed the responsibility on the student body for promoting better school lunches.

Early in the school year, a Victory School Lunch Committee was formed in each school. This committee consisted of four or five outstanding student members (boys and girls), with a teacher as sponsor to the group. The committee was designed to promote better health through a more intelligent selection of the foods eaten—including milk, fruit or vegetable, and other substantial food. They also acted as an example for the entire student body and co-operated with the lunchroom managers whenever and wherever possible.

This was accomplished by means of posters, assembly programs, skits, school newspaper publicity, talks given in various rooms by members of the committee, exhibits in hall cases, and constant checking of student food selection at the lunch periods. In some schools, committee members acted as hosts and hostesses at the lunchroom tables.

City Nutrition Service

St. Joseph, Missouri, has had a city Nutrition Service for eighteen years, which is responsible for the organization of the city nutrition program. A full time nutritionist is now employed to work with a Board of Management, consisting of twenty-four members interested in community health projects.

Through this organization, the first work was done to improve school lunches. During the school year of 1942-1943 the elementary schools correlated the study of nutrition with their entire curriculum. This gave the younger students a good foundation upon which to build good eating habits.

With the continued emphasis on nutrition and through the constant co-operation of the local and school nutritionists, the school lunch program was developed.